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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SNELTING, JONATHAN D

ART UNIT

PAPER NUMBER

3652

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/562,879	Applicant(s) OTAKE ET AL.	
	Examiner Jonathan D. Snelting	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The amendments to the claims filed on October 15, 2010 have been entered into the record. Claims 1-6 are amended.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1-6 recite, in various ways, a dead man switch which—as best understood by examiner—changes the control mode of the actuator between the first actuator control means and the second actuator control means. The term “dead man switch” is a term of art which generally means a switch used to provide an emergency shut-off when not actuated (grasped) by an operator. The applicant is permitted to be his/her own lexicographer; however applicant must clearly set forth a definition of the term that is different from its ordinary and customary meaning. Furthermore, any special meaning assigned to a term must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention. Please see MPEP §2111.01 (IV).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (JP 08282998 A) in view of Kazerooni (U.S. Patent No. 5,915,673).

3. Consider claim 1. Abe teaches a component transportation and installation device which transports and installs an installed component (19) in an installation position (proximate B, C) of a receiving body (proximate C, fig. 5) comprising: a grip mechanism (6); component transportation means (1-5) for moving the grip mechanism with an actuator (11, 25-28), the actuator comprising a first motor (27) configured to move a slide table (4) in a crosswise direction, a second motor (26) configured to alter the elevation of a lifting table (21, see fig. 1), a third motor (25) configured to rotate a horizontal arm (3) around a vertical shaft (2), and a fourth motor (28) configured to rotate a vertical arm (5) around an axis (proximate 5); first actuator control means (encoders 39-69 and clutches 33-63 in transmission state, see paragraph 0035 of attached English translation) for controlling the actuator according to a predetermined route (position information, see last sentence of paragraph 0035 of attached English translation) and performing drive control; second actuator control means (cylinder 11 and clutches 33-63 in ruptured state, see paragraph 0036 of attached English translation) for performing assist control of the actuator and performing drive control.

Abe does not explicitly teach a dead man switch. Kazerooni teaches a dead man switch (274) configured to enable a first mode when actuated and a second mode when not actuated (see column 18, lines 18-43). It would have been obvious to a person having ordinary skill in the art to modify Abe's device with a dead man switch as taught by Kazerooni in order to sense whether an operator is grasping the device or not.

4. Consider claim 2. Abe teaches a component transportation and installation method of transporting and installing an installed component (19) in an installation position (proximate B, C) of a receiving body (proximate C, fig. 5) using component transportation means (1-5) having an actuator (11, 25-28) comprising: performing transportation and installation by selecting an actuator automatic control step (see paragraph 0035 of attached English translation) of automatically transporting and installing the installed component in the installation position with controlling the actuator according to a predetermined route (position information, see last sentence of paragraph 0035 of attached English translation) and an actuator assist control step (see paragraph 0036 of attached English translation) of reducing a burden of a worker who performs the operation by assist control of the actuator; moving a slide table (4) in a crosswise direction (via 27); altering the elevation of a lifting table (21, via 26); rotating a horizontal arm (3) around a vertical shaft (2, via 25); and rotating a vertical arm (5) around an axis (proximate 5, via 28).

Abe does not explicitly teach switching between the automatic control step and the assist control step by actuating a dead man switch. Kazerooni teaches switching between a first mode when actuated and a second mode when not actuated (see

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column 18, lines 18-43) by actuating a dead man switch (274) which is configured to be actuated at every point during transportation and installation. It would have been obvious to a person having ordinary skill in the art to modify Abe's method with the step of actuating a dead man switch as taught by Kazerooni in order to sense whether an operator is grasping the device or not.

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (JP 08282998 A) in view of Kiyuukazi (JP 2000210824 A) in view of Kazerooni (U.S. Patent No. 5,915,673).

6. Consider claim 3. Abe teaches a component transportation and installation method including a step of installing an installed component (19), transported near an installation position (proximate B, C), in a receiving body (proximate C, fig. 5), comprising: positioning the installed component in an installing section (proximate C, fig. 5) of the receiving body by operating the installed component in an assist mode (see paragraph 0036 of attached English translation); installing the positioned installed component in the receiving body; and moving a grip mechanism (6) to a predetermined position in an automatic mode (proximate A, B); moving a slide table (4) in a crosswise direction (via 27); altering the elevation of a lifting table (21, via 26); rotating a horizontal arm (3) around a vertical shaft (2, via 25); and rotating a vertical arm (5) around an axis (proximate 5, via 28).

Abe does not explicitly teach installing the positioned installed component automatically. Kiyuukazi teaches installing a positioned installed component (tire) automatically (via stereo camera 90, see paragraphs 0032-0035 of attached English

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translation). It would have been obvious to a person having ordinary skill in the art to modify Abe's installing step with Kiyuukazi's automatic installing step in order to improve the safety of the worker.

Abe in view of Kiyuukazi does not explicitly teach actuating a dead man switch. Kazerooni teaches actuating a dead man switch (274) which is configured to enable a first mode when actuated and a second mode when not actuated (see column 18, lines 18-43). It would have been obvious to a person having ordinary skill in the art to modify the method of Abe in view of Kiyuukazi with the step of actuating a dead man switch as taught by Kazerooni in order to sense whether an operator is grasping the device or not.

7. Consider claim 4. Abe teaches a component transportation and installation device for installing an installed component (19) in a receiving body (proximate C, fig. 5) comprising: a grip mechanism (6); component transportation means (1-5) with an actuator (11, 25-28) for transporting the grip mechanism, the actuator comprising a first motor (27) configured to move a slide table (4) in a crosswise direction, a second motor (26) configured to alter the elevation of a lifting table (21, see fig. 1), a third motor (25) configured to rotate a horizontal arm (3) around a vertical shaft (2), and a fourth motor (28) configured to rotate a vertical arm (5) around an axis (proximate 5); means ("A worker...performs attachment work by self manual labor," see paragraph 0036 of attached English translation) to install the installed component in an installing section (proximate B, C) of the receiving body; and a control means to select the assist mode when positioning the installed component (see paragraph 0036 of attached English translation).

Abe teaches installing the installed component by “self manual labor,” but does not explicitly teach an installation mechanism. Kiyuukazi teaches an installation mechanism (fig. 7). It would have been obvious to a person having ordinary skill in the art to modify Abe’s device with Kiyuukazi’s installation mechanism in order to improve the safety of the worker.

Abe in view of Kiyuukazi does not explicitly teach a dead man switch. Kazerooni teaches a dead man switch (274) configured to enable a first mode when actuated and a second mode when not actuated (see column 18, lines 18-43). It would have been obvious to a person having ordinary skill in the art to modify the device of Abe in view of Kiyuukazi with a dead man switch as taught by Kazerooni in order to sense whether an operator is grasping the device or not.

The device of Abe in view of Kiyuukazi in view of Kazerooni is capable of the intended use of “switching between an automatic mode and an assist mode.”

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (JP 08282998 A) in view of Ishihara (JP 09210116 A) in view of Kazerooni (U.S. Patent No. 5,915,673).

9. Consider claim 5. Abe teaches a component transportation and installation method of repeatedly transporting an installed component (19) in a component supply position (proximate A) toward an installation position (proximate B, C) including gripping by a grip mechanism (6) while conveying a receiving body (proximate C, fig. 5), returning the grip mechanism to the component supply position (proximate A, see paragraph 0037 of attached English translation) comprising: switching between an

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automatic mode (see paragraph 0035 of attached English translation) and an assist mode (see paragraph 0036 of attached English translation) by actuating a mode control switch (clutches 33-63 and on/off switch in paragraph 0037-0038 of attached English translation); performing switching to an automatic transportation mode (see paragraph 0035 of attached English translation) after gripping the installed component and automatically transporting the installed component nearby the installation position; making the grip mechanism return to the component supply position in the automatic mode (see paragraph 0037 of attached English translation), wherein the automatic mode occurs every time the mode control switch is not being actuated (clutches 33-63 in transmission state) and wherein the assist mode occurs every time the mode control switch is being actuated (clutches 33-63 in ruptured state); transporting and installing installed components in the installation position (see paragraphs 0035-0036 of attached English translation); moving a slide table (4) in a crosswise direction (via 27); altering the elevation of a lifting table (21, via 26); rotating a horizontal arm (3) around a vertical shaft (2, via 25); and rotating a vertical arm (5) around an axis (proximate 5, via 28).

Abe does not explicitly teach conveying the receiving body with pitch feed and installing at least two components in a stop period of one pitch feed. Ishihara teaches conveying a receiving body (50) with pitch feed and installing two components (12) in a stop period of one pitch feed (see paragraph 0040 of attached English translation). It would have been obvious to a person having ordinary skill in the art to modify Abe's method with conveying a receiving body with pitch feed and installing at least two components in a stop period as taught by Ishihara in order to increase throughput.

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Abe in view of Ishihara does not explicitly teach that the mode control means comprises a dead man switch. Kazerooni teaches a dead man switch (274) configured to enable a first mode when actuated and a second mode when not actuated (see column 18, lines 18-43). It would have been obvious to a person having ordinary skill in the art to modify the mode control means of Abe in view of Ishihara with a dead man switch as taught by Kazerooni in order to sense whether an operator is grasping the grip mechanism or not.

10. Consider claim 6. Abe teaches a component transportation device for transporting and installing an installed component (19) in a receiving body (proximate C, fig. 5) comprising: a grip mechanism (6) which grips the installed component in a component supply position (proximate A); and component transportation means (1-5) configured to transport the grip mechanism to an installation position (proximate B, C) in an automatic transportation mode (see paragraph 0035 of attached English translation) or an assist transportation mode (see paragraph 0036 of attached English translation) and to return the grip mechanism in the automatic transportation mode (see paragraph 0037 of attached English translation) to the component supply position when installation is completed, wherein the actuator comprises a first motor (27) configured to move a slide table (4) in a crosswise direction, a second motor (26) configured to alter the elevation of a lifting table (21, see fig. 1), a third motor (25) configured to rotate a horizontal arm (3) around a vertical shaft (2), and a fourth motor (28) configured to rotate a vertical arm (5) around an axis (proximate 5).

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Abe does not explicitly teach receiving body transportation means for performing pitch feed, and the grip mechanism can transport at least two components in a stop period of one pitch feed. Ishihara teaches receiving body (50) transportation means (28) for performing pitch feed, and a grip mechanism (30) can transport at least two components (12) in an installation position (proximate S1) in a stop period of one pitch feed (see paragraph 0040 of attached English translation). It would have been obvious to a person having ordinary skill in the art to modify Abe's device with Ishihara's receiving body transportation means in order to increase throughput.

Abe in view of Ishihara does not explicitly teach a dead man switch. Kazerooni teaches a dead man switch (274) configured to enable a first mode when actuated and a second mode when not actuated (see column 18, lines 18-43). It would have been obvious to a person having ordinary skill in the art to modify the device of Abe in view of Ishihara with a dead man switch as taught by Kazerooni in order to sense whether an operator is grasping the device or not.

Response to Arguments

11. Applicant's arguments filed October 15, 2010 have been fully considered but they are not persuasive.

12. Applicant argues that Abe does not teach the actuator as claimed in amended claims 1, 4, and 6 and the steps of moving, altering, rotating, and rotating as claimed in amended claims 2, 3, and 5. This argument is not persuasive. Abe's actuator includes motors 25-28, which are active when clutches 33-63 are engaged ("transmission state" in Abe translation) and are active—that is, cylinder 11 is active—when clutches 33-63

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are disengaged ("ruptured state" in Abe translation). Motors 25-28 perform the steps of moving, altering, rotating, and rotating. See 35 U.S.C. 103(a) rejections above.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan D. Snelting whose telephone number is 571-270-7015. The examiner can normally be reached on Monday to Friday 8:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saúl Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. D. S./

Examiner, Art Unit 3652

/Gregory W Adams/

Primary Examiner, Art Unit 3652